



Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it contains a valid OMB control number.

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known

| | |
|------------------------|--------------------|
| Application No. | 10/727,699 |
| Filing Date | December 3, 2003 |
| First Named Inventor | Avetik Harutyunyan |
| Art Unit | 1754 |
| Examiner Name | Not Yet Known |
| Attorney Docket Number | 23085-07810 |

Sheet 1 of 2

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Document No. Number - Kind Code ² (if known) | Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
|--------------------|-----------------------|--|--------------------|--|
| /EMJ/ | A1 | US-4,615,649 | 10-07-1986 | Sharpless |
| /EMJ/ | A2 | US-5,424,054 | 06-13-1995 | Bethune et al. |
| /EMJ/ | A3 | US-5,505,566 | 04-09-1996 | Gruber |
| /EMJ/ | A4 | US-5,752,788 | 05-19-1998 | Crum |
| /EMJ/ | A5 | US-5,759,230 | 06-02-1998 | Chow et al. |
| /EMJ/ | A6 | US-5,816,509 | 10-06-1998 | Ahn et al. |
| /EMJ/ | A7 | US-6,436,167 | 08-20-2002 | Chow et al. |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Foreign Patent Document Country Code ² - Number ³ Kind Code ⁴ (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | T ⁵ |
|--------------------|-----------------------|---|--------------------------------|--|----------------|
| /EMJ/ | B1 | JP 11-246901 | 09-14-1999 | Hitachi Zosen Corporation | X |
| /EMJ/ | B2 | JP 2001-254109 | 09-18-2001 | Toda Kogyo Corp | X |
| /EMJ/ | B3 | JP H11-293308 | 10-26-1999 | Mitsubishi Materials Corp | X |
| /EMJ/ | B4 | JP S53-91054 | 07-25-1978 | Hitachi Maxwell Co., Ltd | |
| /EMJ/ | B5 | JP S56-136904 | 10-16-1981 | Toshiba Corporation | |
| /EMJ/ | B6 | JP S61-69906 | 05-13-1986 | Nissan Chemical Industries Co., Ltd. | |

OTHER REFERENCES - NON-PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published | T ⁵ |
|--------------------|-----------------------|--|----------------|
| /EMJ/ | C1 | AGO, HIROKI et al., "Gas-Phase Synthesis of Single-wall Carbon Nanotubes from Colloidal Solution of Metal Nanoparticles", <i>J. Phys. Chem.</i> , November 1, 2001, Vol. 105, No. 43, pp. 10453-10456 | |
| /EMJ/ | C2 | BETHUNE, D.S. et al., "Cobalt-Catalyzed Growth Of Carbon Nanotubes With Single-Atomic-Layer Walls", <i>Nature</i> , June 17, 1993, Vol. 363, pp. 605-607. | |

| | | | |
|--------------------|----------------------------------|-----------------|--|
| Examiner Signature | /Edward M. Johnson/ (04/02/2007) | Date Considered | |
|--------------------|----------------------------------|-----------------|--|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809.

Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

23085/07810/DOCS/1522156.1

| | | | |
|---|---|---|---|
| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT | | Complete if Known Application No. 10/727,699 Filing Date December 3, 2003 First Named Inventor Avetik Harutyunyan Art Unit 1754 Examiner Name Not Yet Known Attorney Docket Number 23085-07810 | |
| Sheet | 2 | of | 2 |

| OTHER REFERENCES – NON-PATENT LITERATURE DOCUMENTS | | | |
|--|-----------------------|--|---|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published | † |
| /EMJ/ | C3 | CASSELL, ALAN M. et al., "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes", <i>J. Phys. Chem.</i> , 1999, Vol. 103, pp. 6484-6492. | |
| /EMJ/ | C4 | CHENG, H.M. et al., "Large-Scale And Low-Cost Synthesis Of Single-Walled Carbon Nanotubes By The Catalytic Pyrolysis Of Hydrocarbons", <i>Applied Physics Letters</i> , Vol. 72, No. 25, pp. 3282-3284. | |
| /EMJ/ | C5 | CI, LIJIE et al., "Preparation Of Carbon Nanofibers By The Floating Catalyst Method" <i>Carbon</i> , 2000, 38, pp.1933, 1937. | |
| /EMJ/ | C6 | IIJIMA, SUMIO et al., "Single-Shell Carbon Nanotubes Of 1-Nm Diameter", <i>Nature</i> , June 17, 1993, Vol. 363, pp. 603-605. | |
| /EMJ/ | C7 | IVANOV, V. et al. "The Study Of Carbon Nanotubes Produced By Catalytic Method", Elsevier Science B.V., <i>Chemical Physics Letters</i> , Vol. 223, June 24, 1994, pp. 329-335. | |
| /EMJ/ | C8 | JOURNET, C. et al., "Large-Scale Production Of Single-Walled Carbon Nanotubes By The Electric-Arc Technique", <i>Nature</i> , Vol. 388, August 21, 1997, pp. 756-758. | |
| /EMJ/ | C9 | LI, W.Z. et al., "Large-Scale Synthesis of Aligned Carbon Nanotubes", <i>Science</i> , Vol. 274, December 6, 1996, pp. 1701-1703. | |
| /EMJ/ | C10 | NIKOLAEV, PAVEL et al., "Gas-Phase Catalytic Growth Of Single-Walled Carbon Nanotubes From Carbon Monoxide", Elsevier Science B.V., <i>Chemical Physical Letters</i> , Vol. 313, 1999, pp. 91-97. | |
| /EMJ/ | C11 | SU, MING et al., "A Scalable CVD Method for the Synthesis of Single-Walled Carbon Nanotubes With High Catalyst Productivity", Elsevier Science B.V., <i>Chemical Physics Letters</i> , Vol. 322, May 26, 2000, pp. 321-326. | |
| /EMJ/ | C12 | THESS, ANDREAS et al., "Crystalline Ropes of Metallic Carbon Nanotubes", <i>Science</i> , Vol. 273, July 26, 1996, pp. 483-487. | |
| /EMJ/ | C13 | ZHU, W.H. et al., "Direct Synthesis of Long Single-Walled Carbon Nanotube Strands", <i>Science</i> , Vol. 296, May 3, 2002, pp. 884-886. | |

| | | | |
|--------------------|----------------------------------|-----------------|--|
| Examiner Signature | /Edward M. Johnson/ (04/02/2007) | Date Considered | |
|--------------------|----------------------------------|-----------------|--|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609.
Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

23085/07810/DOCS/152215.1



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known

Application No. 10/727,699
Filing Date December 3, 2003
First Named Inventor Avetik Harutyunyan
Art Unit 1754
Examiner Name Rebecca M. Stadler
Attorney Docket Number 23085-07810

Sheet 1 of 1

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Document No. | Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
|--------------------|-----------------------|--------------------|-----------------|---|
| /EMJ/ | A1 | US 2003/0161782 A1 | 08-28-2003 | Kim |
| /EMJ/ | A2 | US 2004/0062992 A1 | 04-01-2004 | Kajiura et al. |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | T ⁴ |
|--------------------|-----------------------|-------------------------|-----------------------------|---|----------------|
| /EMJ/ | B1 | WO 02/070405 A | 09-12-2002 | Sony Corporation Abstract Only | X |

OTHER REFERENCES – NON-PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published | T ⁴ |
|--------------------|-----------------------|--|----------------|
| /EMJ/ | C1 | ANDREWS, R. et al., "Continuous Production of Aligned Carbon Nanotubes: A Step Closer to Commercial Realization", Chemical Physics Letters, April 16, 1999, pp. 467-474, Vol. 303, No. 5-6. | |
| /EMJ/ | C2 | MAYNE, M. et al., "Pyrolytic Production of Aligned Carbon Nanotubes From Homogeneously Dispersed Benzene-Based Aerosols", Chemical Physics Letters, April 20, 2001, Vol. 338, pp. 101-107, Amsterdam, Netherlands. | |
| /EMJ/ | C3 | MOISALA, A. et al., "The Role of Metal Nanoparticles in The Catalytic Production of Single-Walled Carbon Nanotubes – a review", Journal of Physics: Condensed Matter, March 10, 2003, pp. 3011-3035, Vol. 15. | |
| /EMJ/ | C4 | PCT International Search Report and Written Opinion; PCT/IB2004/004454, November 17, 2005. 15 pages. | |
| /EMJ/ | C5 | SONGSASEN, A. et al., "Preparation of Carbon Nanotubes by Nickel Catalyzed Decomposition of Liquefied Petroleum Gas (LPG)", Kasetsart University, Bangkok, Thailand, 2001, pp. 354-359, Vol. 35, No. 3. | |

| | | | |
|--------------------|----------------------------------|-----------------|--|
| Examiner Signature | /Edward M. Johnson/ (04/02/2007) | Date Considered | |
|--------------------|----------------------------------|-----------------|--|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609.
Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

23085/07810/DOCS/1579687.1